

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A combination of a microphone requiring a bias signal and a sigma-delta converter operable to supply a bias signal to the microphone and having an input connected to an output of the microphone, to convert a signal generated by the microphone into a digital signal at an output of the sigma-delta converter, wherein the sigma-delta converter comprises:

a loop filter, a sampler, a first feed back circuit for AC signal signals, including a first digital-to-analog converter, and a second feedback circuit for DC signals, including a second digital-to-analog converter, the bias signal for the microphone being derived from the second ~~feed-back~~ feedback circuit, and the first feedback circuit and the second feedback circuit both being coupled to an input of the loop filter.

Claim 2 (Canceled)

3. (Currently Amended) ~~A~~ The combination as claimed in claim 1, wherein the second feed back circuit includes a low pass filter having a cut-off frequency lower than a lowest signal frequency of the analog-to-digital converter.

4. (Currently Amended) ~~A~~ The combination as claimed in claim 1, wherein ~~the a~~ gain of ~~the a~~ second feed back loop, which comprises the loop filter, the sampler and the second ~~feed-back~~ feedback circuit, is several orders of magnitude higher than unity.

5. (Currently Amended) ~~A~~ The combination as claimed in claim 3, wherein the low pass filter is a digital filter and is included in the second ~~feed-back~~ feedback circuit before the second digital-to-analog converter.

6. (Currently Amended) ~~A~~ The combination as claimed in claim 5, wherein the first feedback circuit and the second ~~feed-back~~

feedback circuit are combined to a united feed-back circuit including a single digital-to-analog converter, having an input connected to a low-pass filter, and a bypass circuit which bypasses the low-pass filter.

7. (Currently Amended) A The combination as claimed in claim 1, comprising a bridge circuit, whose branches include current sources, which bridge circuit has a first pair of opposite junctions ~~is~~ connected to a power supply, and has a second pair of opposite junctions ~~is~~ connected to one another by a capacitor and the microphone, the junctions of said second pair each being connected to ~~the~~ inputs of the sampler ~~circuit~~, and a pair of opposite current sources being controlled by ~~the~~ an output signal of one of the first feedback circuit and the second feedback circuit.

8. (Currently Amended) A The combination as claimed in claim 7, ~~wherein the further comprising an integrator comprises including~~ a common mode amplifier having an output for driving control inputs of controllable current sources connected between ~~the~~ inputs of the

sampler circuit and ~~one a line of the a power supply lines.~~

Claim 9 (Canceled)

10. (New) A system comprising:

a microphone requiring a bias signal; and

an analog-to-digital converter configured to convert a signal generated by the microphone into a digital signal and to supply the bias signal to the microphone;

the analog-to-digital converter comprising a loop filter, a sampler, a first feed back circuit, and a second feedback circuit, wherein the first feedback circuit and the second feedback circuit are coupled to an input of the loop filter.

11. (New) The system of claim 10, wherein the bias signal for the microphone is derived from one of the first feed back circuit and the second feed-back circuit.

12. (New) The system of claim 10, wherein the first feed back circuit is for AC signals and the second feedback circuit is for DC

signals.

13.(New) The system of claim 10, wherein the second feedback circuit is for DC signals and the bias signal for the microphone is derived from the second feed-back circuit.

14.(New) The system of claim 10, wherein the second feed back circuit includes a low pass filter having a cut-off frequency lower than a lowest signal frequency of the analog-to-digital converter.

15.(New) The system of claim 14, wherein the low pass filter is a digital filter and is included in the second feedback circuit before the second digital-to-analog converter.

16.(New) The system of claim 10, wherein a gain of a feed back loop comprising the loop filter, the sampler and the second feedback circuit, is several orders of magnitude higher than unity.

17.(New) The system of claim 10, wherein the first feedback circuit and the second feedback circuit are combined to a united

feed-back circuit including a single digital-to-analog converter, having an input connected to a low-pass filter, and a bypass circuit which bypasses the low-pass filter.

18. (New) The system of claim 10, further comprising a bridge circuit having branches that include current sources, wherein the bridge circuit has a first pair of opposite junctions connected to a power supply, and has a second pair of opposite junctions connected to one another by a capacitor and the microphone, the junctions of said second pair each being connected to inputs of the sampler, and a pair of opposite current sources being controlled by an output signal of one of the first feedback circuit and the second feedback circuit.

19. (New) The system of claim 10, further comprising an integrator including a common mode amplifier having an output for driving control inputs of controllable current sources connected between inputs of the sampler and a power supply.